

**WHAT IS CLAIMED IS:**

- 1           1.       A communications module, comprising:  
2           a data channel operable to translate data signals in at least one direction  
3           between a transmission cable interface and a host device interface and having a  
4           variably configurable termination impedance at a host device node connectable to  
5           a host device; and  
6           a termination impedance controller operable to set the variably  
7           configurable termination impedance of the data channel.
- 1           2.       The communications module of claim 1, wherein the data channel  
2           comprises a variable resistance circuit at the host device node.
- 1           3.       The communications module of claim 2, wherein the variable  
2           resistance circuit comprises a transistor with a voltage-controlled resistance value.
- 1           4.       The communications module of claim 2, wherein the variable  
2           resistance circuit comprises a resistor connected in series with a switch.
- 1           5.       The communications module of claim 2, wherein the variable  
2           resistance circuit presents different termination impedances at the host device  
3           node in response to receipt of different respective electrical control signals from  
4           the termination impedance controller.
- 1           6.       The communications module of claim 2, wherein the variable  
2           resistance circuit comprises a mechanical switch for selectively connecting the  
3           host device node to different termination impedances, and the termination  
4           impedance controller enables manual control of the mechanical switch.
- 1           7.       The communications module of claim 1, wherein the termination  
2           impedance controller is operable to selectively set the variably configurable  
3           termination impedance of the data channel to a differential resistance of 150 ohms  
4           in a first configuration mode and to set the variably configurable termination  
5           impedance of the data channel to a differential resistance of 100 ohms in a second  
6           configuration mode.

1           8.     The communications module of claim 1, further comprising a  
2 housing containing the data channel.

1           9.     The communications module of claim 8, wherein the housing has a  
2 transmission cable interface end and a host device interface end.

1           10.    The communications module of claim 9, wherein the host device  
2 interface end of the housing is pluggable into a receptacle of a host device.

1           11.    The communications module of claim 1 implemented in accordance  
2 with a small form pluggable (SFP) configuration or a small form factor (SFF)  
3 configuration.

1           12.    The communications module of claim 1 implemented in accordance  
2 with a Giga-Bit Interface Converter (GBIC) configuration.

1           13.    The communications module of claim 1, wherein the data channel  
2 provides multiple channel transmission of data in at least one direction between  
3 the transmission cable interface and the host device interface.

1           14.    The communications module of claim 1, wherein the data channel is  
2 operable to translate data signals in both directions between the transmission  
3 cable interface and the host device interface.

1           15.    A communications module, comprising:  
2           a receiver data channel operable to translate data signals from a  
3 transmission cable interface to a host device interface and a transmitter data  
4 channel operable to translate data signals from the host device interface to the  
5 transmission cable interface, wherein each of the receiver data channel and the  
6 transmitter data channel has a respective variably configurable termination  
7 impedance at a respective host device node connectable to the host device;  
8           a termination impedance controller operable to set the respective variably  
9 configurable termination impedance of each of the receiver data channel and the  
10 transmitter data channel; and  
11           a housing containing the receiver data channel, the transmitter data  
12 channel, and the termination impedance controller, and having a transmission

13 cable interface end connectable to a transmission cable and a host device  
14 interface end connectable to a host device.

1 16. The communications module of claim 15, wherein each of the  
2 receiver data channel and the transmitter data channel comprises a respective  
3 variable resistance circuit at the respective host device node.

1 17. The communications module of claim 16, wherein each variable  
2 resistance circuit presents different termination impedances at the respective host  
3 device node in response to receipt of different respective electrical control signals  
4 from the termination impedance controller.

1 18. A method of making a communications module, comprising:  
2 obtaining a data channel operable to translate data signals in at least one  
3 direction between a transmission cable interface and a host device interface and  
4 having a variably configurable termination impedance at a host device node  
5 connectable to a host device;  
6 mounting the data channel in a housing having a first end connectable to a  
7 transmission cable and a second end connectable to a host device; and  
8 setting the variably configurable termination impedance of the data  
9 channel to a termination impedance value substantially matching a target host  
10 device termination impedance value.

1 19. The method of claim 18, wherein the variably configurable  
2 termination impedance of the data channel is set after the data channel is  
3 mounted in the housing.

1 20. The method of claim 18, further comprising storing the  
2 communications module before the variably configurable termination impedance  
3 of the data channel is set.